

Trend Study 10R-3-00

Study site name: Burnt Timber .

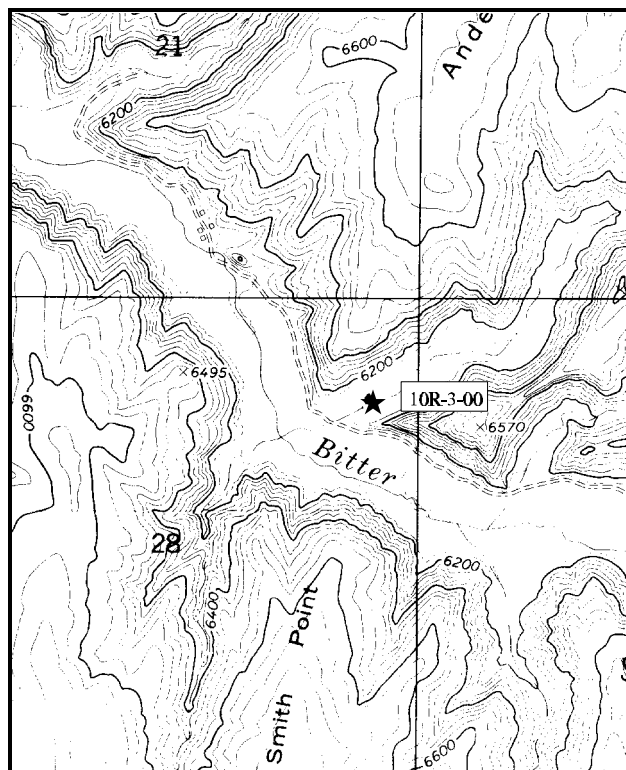
Range type: Burn-Cheatgrass

Compass bearing: frequency baseline 50°M.

Footmark (first frame placement) 5 feet. Frequency belt placement; line 1 (11ft), line 2 (34ft), line 3 (59ft), line 4 (71ft), line 5 (95ft).

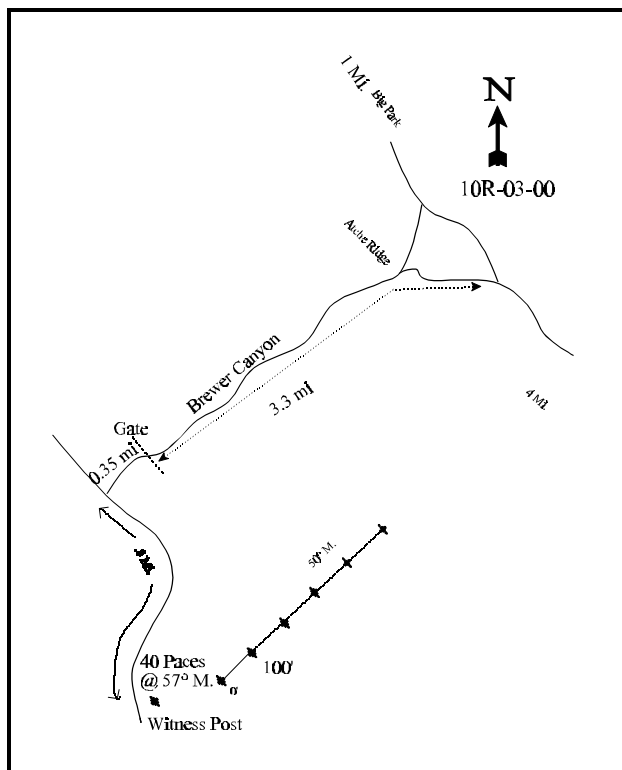
LOCATION DESCRIPTION

Head southwest down Brewer Canyon to the road just past a gated fence at the bottom of the canyon. Turn left on this road and travel 0.8 miles to a witness post on the left (east) side of the road. The 0-foot stake is 40 paces from the witness post at 57°M. The 0-foot stake is marked with browse tag number 81.



Map name: Burnt Timber Canyon .

Township 13 S, Range 24 E, Section 28



Diagrammatic Sketch

UTM 4391499.285 N, 651964.959 E

DISCUSSION

Trend Study 10R-3

The Burnt Timber site is located in Sweetwater Canyon about 1 mile south of Brewer Canyon. The study area was prescribed burned to remove a dense stand of black greasewood and then seeded. It has a nearly level slope of about 3% with a southwest aspect at an elevation of 6,400 feet. The area is considered winter range for deer and elk, with use being light to moderate. Pellet group data from 1997 estimated 37 elk days use/acre (91 edu/ha) and 6 cow days use/acre (15 cdu/ha). Data from 2000 estimate 26 elk, 2 cow and 7 deer days use/acre (64 edu/ha, 5 cdu/ha and 17 ddu/ha). This area is within the Atchee Ridge allotment which permits cattle grazing from June through September on a deferred rest rotation basis.

Soil is alluvially deposited and deep with no rock in the profile. Textural analysis indicates a loam soil with a moderately alkaline pH of 8.0 and a high electrical conductivity of 4.2 (moderately saline). The black greasewood has translocated salt from the soil to the leaves and now the salt has been incorporated into the upper layer of the soil. The effective rooting depth (see methods) is 18 inches with an average temperature of 66°F. Litter and vegetation cover combined provide good soil protection and erosion control. Percent bare ground was estimated at 11% in 1997 and almost 15% in 2000, leaving little possibility for onsite erosion to occur. Rock cover is almost nonexistent with no cryptogamic crusts reported.

The only shrub sampled on the site is black greasewood with an estimated density of 260 plants/acre in 1997. Most of the black greasewood plants sampled were classified as young with many showing moderate hedging. The population consisted of sprouts originating from the burned stumps. Average height was 1½ feet with an average crown of 2 feet. Burned stumps were classified as dead plants and had an estimated density of 800 plants/acre. In 2000, density of greasewood increased to 640 plants/acre and average height doubled. Seedlings are abundant (1,700 plants/acre) and young plants account for 53% of the population. This age class distribution would indicate a rapidly increasing population. Use was light on all plants sampled and many young and seedlings were unavailable to browsing because they were growing under mature plants.

This site is dominated by cheatgrass which accounted for 98% of the total vegetative cover in 1997. At the time the study was established, cheatgrass averaged 1½ to 2 feet in height. Crested wheatgrass was sampled in one quadrat and Great Basin wildrye was widely scattered in large clumps, but was not sampled in any of the quadrats. All forbs encountered were annuals and accounted for only 1% of the vegetative cover. In 2000, cheatgrass continued to dominate the site. Average cover declined from 54% in 1997 to 24% in 2000 and nested frequency declined significantly due to drought. However, quadrat frequency is nearly unchanged. The only perennial grasses encountered include a few crested wheatgrass and one Russian wildrye plant. Forb cover increased from less than 1% in 1997 to 22% in 2000. All species are weeds however. Composition and condition of the herbaceous understory is poor and will likely remain so without re-treatment.

1997 APPARENT TREND ASSESSMENT

The soil appears to be adequately protected from on-site erosion, although cheatgrass would not offer much protection to any off-site erosion coming down the canyon due to cheatgrass's shallow root system. The black greasewood population was classified as mostly young with one plant flowering this year. Many of the young plants were moderately hedged with the young, tender shoots being browsed. The dominant vegetation is cheatgrass. It accounts for 98% of the vegetative cover with only a few other perennial species present. Cheatgrass has now had a season to establish an extensive seed bank and may be extremely difficult to suppress on this site. Some of the cheatgrass showed signs of utilization, but at the time data was collected, June 6, 1997, the cheatgrass had dried out. Utilization by wildlife and livestock will occur in the early spring when the cheatgrass is greening up and immature or when there is late fall germination.

2000 TREND ASSESSMENT

Trend for soil is stable. There is little unprotected bare ground due to the abundant vegetation and litter cover. However, nearly all of the vegetation cover consists of cheatgrass. Trend for browse is down due to a complete lack of preferred browse and an expanding population of greasewood. It is apparent that control measures on the greasewood were ineffective. Trend for the herbaceous understory is stable, and remains in extremely poor condition. Cheatgrass is still dominant and provides 99% of the grass cover even though it declined significantly in nested frequency. Weedy forbs including Fremont goosefoot, musk mustard, and summer cypress significantly increased in nested frequency and now account for 99% of the forb cover and 47% of the herbaceous cover. Perennial species are nearly non-existent. This site currently offers very little for wintering big game.

TREND ASSESSMENT

soil - stable (3)

browse - down, no useful species present and greasewood increasing (1)

herbaceous understory - stable and in extremely poor condition (3)

HERBACEOUS TRENDS --

Herd unit 10R, Study no: 3

Type	Species	Nested Frequency		Quadrat Frequency		Average Cover %	
		'97	'00	'97	'00	'97	'00
G	Agropyron cristatum	5	5	1	4	.00	.19
G	Bromus tectorum (a)	457	*342	97	95	53.90	23.76
G	Elymus cinereus	-	-	-	-	.00	-
G	Elymus junceus	-	1	-	1	-	.03
Total for Annual Grasses		457	342	97	95	53.90	23.76
Total for Perennial Grasses		5	6	1	5	0.01	0.22
Total for Grasses		462	348	98	100	53.91	23.98
F	Chenopodium fremontii (a)	1	*96	1	37	.00	8.03
F	Chorispora tenella (a)	5	*52	3	17	.07	2.18
F	Descurainia pinnata (a)	1	5	1	3	.00	.21
F	Kochia scoparia (a)	24	*95	10	42	.53	11.44
Total for Annual Forbs		31	248	15	99	0.61	21.88
Total for Perennial Forbs		0	0	0	0	0	0
Total for Forbs		31	248	15	99	0.61	21.88

* Indicates significant difference at % = 0.10

BROWSE TRENDS --

Herd unit 10R, Study no: 3

Type	Species	Strip Frequency		Average Cover %	
		'97	'00	'97	'00
B	Sarcobatus vermiculatus	11	17	.71	-
Total for Browse		11	17	0.70	0

BASIC COVER --

Herd unit 10R, Study no: 3

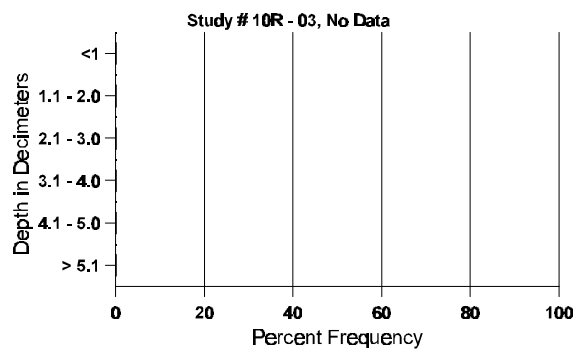
Cover Type	Nested Frequency		Average Cover %	
	'97	'00	'97	'00
Vegetation	465	375	55.68	45.15
Rock	8	6	.04	.03
Pavement	16	2	.05	.00
Litter	498	491	70.36	76.77
Bare Ground	189	175	11.30	14.50

SOIL ANALYSIS DATA --

Herd Unit 10R, Study no: 03

Effective rooting depth (inches)	Temp °F (depth)	PH	%sand	%silt	%clay	%OM	PPM P	PPM K	dS/m
18.1	66.2 (19.7)	8.0	33.3	42.2	24.5	3.97	25.94	176.0	4.2

Stoniness Index



PELLET GROUP FREQUENCY --

Herd unit 10R, Study no: 3

Type	Quadrat Frequency		Pellet Transect			
			Pellet Groups per Acre		Days Use per Acre (ha)	
	'97	'00	'97	'00	'97	'00
Elk	15	28	479	339	37 (91)	26 (65)
Deer	1	3	-	87	-	7 (17)
Cattle	4	3	70	17	6 (15)	2 (4)

BROWSE CHARACTERISTICS --

Herd unit 10R, Study no: 3

Sarcobatus vermiculatus																					
A G E	Y R	Form Class (No. of Plants)										Vigor Class				Plants Per Acre	Average (inches)		Total		
		1	2	3	4	5	6	7	8	9	1	2	3	4	Ht.		Cr.				
S	97 00	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0				
		42	-	-	29	-	-	14	-	-	85	-	-	-	1700			85			
Y	97 00	2	8	2	-	-	-	-	-	-	12	-	-	-	240		12				
		8	-	-	3	-	-	6	-	-	17	-	-	-	340			17			
M	97 00	-	1	-	-	-	-	-	-	-	1	-	-	-	20	17	26	1			
		6	-	-	9	-	-	-	-	-	15	-	-	-	300				36	55	15
X	97 00	-	-	-	-	-	-	-	-	-	-	-	-	-	800		40				
		-	-	-	-	-	-	-	-	-	-	-	-	-	20			1			
% Plants Showing		<u>Moderate Use</u>					<u>Heavy Use</u>					<u>Poor Vigor</u>					<u>%Change</u>				
'97		69%					15%					00%					+59%				
'00		00%					00%					00%									
Total Plants/Acre (excluding Dead & Seedlings)															'97	260	Dec:	-			
															'00	640		-			